

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Transportation Engineer Tech	OFFICE/BRANCH/SECTION Construction Services/Materials Lab	
WORKING TITLE Materials Lab Technician	POSITION NUMBER 904-501-3175-XXX	REVISION DATE

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

Under the direction and supervision of a Senior Transportation Engineer, the incumbent shall perform a variety of transportation engineering tasks related to the Construction and Design pavement and materials engineering program. The incumbent will perform engineering work related to Materials Laboratory testing, including field investigations and preparing final reports regarding the laboratory test results. The incumbent also conducts research on new pavement materials and participates in statewide task groups to improve pavement specifications and testing practices.

CORE COMPETENCIES:

As a Transportation Engineer Tech, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (Safety, Prosperity - Collaboration, Equity, Integrity)
- Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Safety - Collaboration)
- Reliability:** Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Safety, Climate Action - Innovation, Pride)
- Problem-solving and Decision-making :** Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Safety, Equity, Prosperity - Collaboration, Integrity)
- Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Safety - Collaboration, People First)
- Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Employee Excellence - Collaboration, Stewardship)
- Communication:** Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Safety, Climate Action, Employee Excellence - Collaboration, Equity, People First)
- Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Equity - Innovation, Stewardship)
- Technical Expertise:** Depth of knowledge and skill in a technical area. (Safety, Climate Action - Collaboration)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
40% E	Perform sampling and testing of construction materials for all phases of roadway construction projects. This sampling and testing includes, but is not limited to, Hot Mix Asphalt (HMA) samples, Portland Cement Concrete (PCC) samples, and soil samples such as structure backfill, aggregate base, shoulder backing, and lime- or cement-treated soil. Laboratory physical testing is required for construction projects to verify that the HMA, PCC, soil, and aggregate materials meet the requirements of State Standard Specifications. Sampling and testing methods follow AASHTO and CTM standards, and the incumbent will be trained and certified in the necessary CTM and AASHTO test methods. He/she is required to operate testing equipment such as a compactor, press, shaker, pulverizer, and stabilometer to perform the above tests under the general direction of a Lead Worker.

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25%	E	Assists with material testing to determine HMA (including Open-Graded and Rubberized) and PCC designs, Cement Treated Base mix designs, and Lime- or Cement-treated soil mix designs for construction contracts. The incumbent will operate a coring rig within Caltrans' right-of-way to obtain roadway and structural samples for laboratory testing, verify the pavement structure of roadways, confirm materials placed for contract compliance, and support other units in executing their requested tests. In addition, the incumbent will be required to maintain the coring rig, ensure equipment is scheduled for routine maintenance, coordinate supplies for each project, and communicate with Maintenance or Construction to schedule required work.
20%	E	Performs engineering computations to evaluate test data by using volumetric property of the aggregates for backward calculation. This ensures Contractor's operations are in compliance with the plans and specifications.
10%	E	Assists with training of other Transportation Engineer Technicians on various laboratory tests. Assists with research for investigative work on transportation engineering materials. Perform preliminary calibration and maintenance of testing equipment as necessary.
5%	M	The incumbent will perform other duties as required to ensure the Materials Laboratory is run safely and efficiently. Attends training courses, provides formal or informal training to others, participates in internal and external teams and committees, and attends meetings. The incumbent may perform other duties within the scope of the unit as required.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.
MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

None. May occasionally act as a lead person, assisting the Senior in the supervision and training of engineers and technicians.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

This position requires the knowledge and the ability to apply basic engineering mathematics and materials science. A background in basic Soil Mechanics is desirable. The incumbent must be able to understand the operation of precision testing equipment. He/ She must be able to analyze test results of construction materials and recognize situations that indicate potential or actual problems.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Errors, if not immediately recognized and corrected, could result in problems ranging from annoyance to serious inconvenience and, in some cases, may result in delays or costly remedial action on a project.

PUBLIC AND INTERNAL CONTACTS

Public contacts are normally limited to vendors and suppliers of test equipment and construction materials. Other contacts are with the employee's counterparts in city, county and private testing laboratories. Internal contacts are normally Resident Engineers, Field Laboratory Supervisors, and Construction Testing and Inspection personnel.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent shall be a trustworthy person, able to function on his/her own with minimal, or no supervision. Is willing to work in an environment that is subject to dust and fumes. Incumbent must recognize the importance of safely working around and adjacent to testing equipment and power tools. Must be able to stand long periods while operating various types of laboratory equipment and must be able to work overtime as necessary and work under pressure. Incumbent must be able to safely carry 50 lbs. test sample sacks/boxes without inflicting self-injury. Must be able to develop and maintain cooperative, professional working relationships as a valued member of the Materials Laboratory Staff. Incumbent must possess a Valid California Driving License and capable of driving state vehicle in a safe and responsible manner.

WORK ENVIRONMENT

While at their base of operation, employee will work in a climate-controlled field office under artificial light. The Senior Transportation Engineer will set working hours, overtime and night work may be required, and vacations may be restricted, during peak times of the construction project. Employee may work at another construction field office or may work for another senior and/or a different project due to operational needs.

ADA Notice

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In the field, the employee may be exposed to loud noise, dust, odors, fumes, machinery activity and extreme weather conditions at the project sites. Use of personal protective equipment will be required to comply with the Department's Illness and Injury Prevention Program.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

EMPLOYEE (Print)

EMPLOYEE (Signature)	DATE
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I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)	DATE
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CLASSIFICATION TITLE Junior Engineering Technician	OFFICE/BRANCH/SECTION Construction / Construction Services / Materials Lab	
WORKING TITLE Junior Materials Lab Technician	POSITION NUMBER 904-501-3008-XXX	REVISION DATE 07/17/2026

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

Under the supervision of a Senior Transportation Engineer, the incumbent shall perform a variety of Junior Engineering Technician tasks related to the Construction and Design pavement and materials engineering program. The incumbent will assist the Transportation Engineering Technicians in engineering work related to Materials Laboratory testing, including maintaining records and files, entering and compiling test data, and performing test methods and learning laboratory specifications.

CORE COMPETENCIES:

As a Junior Engineering Technician, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (Safety, Prosperity - Collaboration, Equity, Integrity)
- Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Safety - Collaboration)
- Reliability:** Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Safety, Climate Action - Innovation, Pride)
- Problem-solving and Decision-making :** Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Safety, Equity, Prosperity - Collaboration, Integrity)
- Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Safety - Collaboration, People First)
- Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Employee Excellence - Collaboration, Stewardship)
- Communication:** Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Safety, Climate Action, Employee Excellence - Collaboration, Equity, People First)
- Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Equity - Innovation, Stewardship)
- Technical Expertise:** Depth of knowledge and skill in a technical area. (Safety, Climate Action - Collaboration)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
40% E	Working under the close supervision of the Senior Transportation Engineer and the lab manager, the Junior Engineering Technician (JET) assists in sampling intake and preparation of construction materials for all phases of roadway construction projects. The samplings include, but is not limited to, Hot Mix Asphalt (HMA) samples, Portland Cement Concrete (PCC) samples, and soil samples such as structure backfill, aggregate base, shoulder backing, and lime- or cement-treated soil. The incumbent provides support to the Transportation Engineering Technicians (TET).

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30%	E	The incumbent will assist the TET's with receiving, logging, and tracking material samples submitted for laboratory testing. Incumbent prepares and organizes samples for testing following established laboratory procedures. Performs routine laboratory support tasks and basic materials testing while receiving training. Enters test data into laboratory databases and maintain accurate testing records. Prepares routine correspondence, reports, spreadsheets, and laboratory documentation. Assists with reviewing laboratory documentation for completeness and accuracy.
20%	E	Maintains laboratory files, equipment, records, and inventory of testing supplies. Learns applicable Caltrans test methods such as ASTM/AASHTO standards, laboratory quality assurance procedures, and departmental policies.
5%	E	Performs preliminary calibration and maintenance of testing equipment as necessary.
5%	M	Attends training courses, provides formal or informal training to others, participates in internal and external teams and committees, and attends meetings. The incumbent may perform other duties within the scope of the unit as required.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.
MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS
This position does not supervise other employees.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS
Knowledge of standard driving rules and principles of road safety. Standard measurements of length, area, volume, density, and mass. Simple mathematical concepts and principles, basic use of a calculator. Basic safety issues and considerations related to working in and around vehicular traffic and moving vehicles. Methods and procedures for performing a variety of manual labor activities in a safe manner. Basic safe work practices to protect their own safety and health and that of others. Communicate effectively at a level required for successful job performance; do computing and reporting neatly and accurately; follow directions. All work will be reviewed by a lead worker or the Area Construction Engineer.

Ability to: understand and follow verbal and written instructions and work as a member of the team to meet the goals of the project in a safe and efficient manner, learn to perform pre-operation inspections of vehicles prior to operation to ensure appropriate working condition, work outdoors with long hours and sometimes difficult physical demands, read, and comprehend simple measurements, understand and demonstrate safe working/operating methods of assigned tools and equipment.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR
Responsible for the accuracy and completeness of the construction work that was subject to his/her decisions. Errors and omissions in office construction work should be insignificant as all work shall be checked by others.

PUBLIC AND INTERNAL CONTACTS
A Junior Engineering Technician in a construction office may interact with the public or other governmental agencies, he or she will redirect all inquiries to the Senior Transportation Engineer.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS
Employees will be required to sit for long periods of time using a keyboard and video display terminal. Employee must be congenial and tactful when dealing with others while effectively and cooperatively accomplishing tasks. Frequent telephone interaction is common and necessary. Employees will also work under field conditions which will entail walking on uneven terrain under variable weather conditions.

The incumbent may have to stand for long periods of time, walk on slopes or uneven terrain, move and transport bags of material samples (weighing up to 50 pounds). The incumbent can expect to work under very noisy conditions and is required to be tolerant of working within very close range of highway traffic and heavy equipment.

WORK ENVIRONMENT
While at their base of operation, employee will work in a climate-controlled field office under artificial light. The Senior Transportation Engineer will set working hours. Overtime and night work may be required, and vacations may be restricted, during peak times of the construction project. Employee may also be transferred to work at another construction field office or

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may be reassigned to work for another senior and/or a different project due to operational need.

The JET will be exposed to loud noise, dust, and extreme weather conditions at the project sites.

This position may be eligible for telework. The amount of telework is at the discretion of the Department and based on Caltrans's current telework policy. While Caltrans supports telework, in-person attendance may be required based on operational needs. Employees are expected to be able to report to their worksite with minimal notification if an urgent need arises. The selected candidate may be required to conduct business travel on behalf of the Department or commute to the headquartered location. Business travel reimbursements considers an employee's designated Headquarters Location, primary residence, and may be subject to CalHR regulations or applicable bargaining unit contract provisions. All commute expenses to the headquartered location will be the responsibility of the selected candidate.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE